

Date:

April 10, 1984

Subject:

TRIP REPORT - COLUMBIA FALLS PROJECTS

From/Location:

J. L. Yeager/AHR

To/Location:

K. A. Gdovka/AHR

On April 3, 4 and 5, I reviewed the status of active projects at Columbia Falls with the various plant staff members assigned to each task.

X { It must be emphasized that the people, equipment, and processes at Columbia Falls are really "looking good." Plant spirit is high, housekeeping and equipment look sharp, and the most recent performance figures are approaching all time highs.

Summary

1. Anode Technology Committee - regular meeting held, attended by members from Harvey Tech, Cherry Point, Tucson, Chicago and Columbia Falls. Have learned a great deal about coke. Know that good Sodesberg anode requires matching coke and pitch. Future work to concentrate on pitch knowledge.
2. Extrusion ingot - conceptual engineering complete, operating cost extras now being determined.
3. Cathode construction - improvements continue to be made by emphasizing standard practices and learning from past experiences and that of consultants from other companies.
4. Mitsubishi anode - twenty test pots underway, anode at bath January, 1984. Nineteen day pin pull and 10" zero height in process. Will go to four fraction paste late this year when paste plant conversion complete. Early results are okay. Metal purity is definitely improved.
5. Pin cleaning - the old shot blast pin cleaning machine has been rebuilt and is successfully cleaning all line 1 pins. After several pin patterns have been pulled, the effects on improving metal purity and lowering anode drop will be reported.
6. Lithium pots - the five lithium bath test pots have been operated for one year at 2.5% lithium. Although the average bath temperature decreased by 8°C, the "hoped for" improvement in ampere efficiency was not observed. The test will be terminated and reported.

RECEIVED
W. T. CHAMBERLAIN

MAY - 3 1984

AM
7 8 9 10 11 12 1 2 3 4 5 6 PM

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→ F. Mudge

End - Is there an
evaluation procedure for
coke which avoids these
costly consequences?

WJR
517

7. ASV magnetics - those pots that have had the anode feed bus modified according to the modeling performed by ASV, have seen a dramatic improvement in the "Z" component of the magnetic field. This will allow using lower metal pads and all the operating improvements that go with low pads.

8. ECL Cranes - the cranes as now adapted for pot line service are working as expected and are a generation or two improvement over the old pin cranes.

9. Anode dusting and shatter - now that all the ARCO coke has worked its way out of the operating anodes, anode carbon problems have been reduced to a manageable level. The exception is those pots still being reactivated that have ARCO coke anodes. They start up and run tough until the 70 to 90 day anode cycle has run its course.

Anode quality improvements will continue to be a top priority in the pot lines.

10. Point feeders - the newest plant designed hopper, plus through the skirt feeder, works very well. Combined with the process computer, low metal pads and good alumina, Columbia Falls will have point fed pots controlled as well as those at Sebree.

11. New process computer - pot line 5 has been converted (hardware and software) to the Series/1 computer from the IBM 1800. The rest of the pot lines will be changed over according to plan during 1984.

12. Widened anode bus - ten pots have had the anode bus widened. Anode bake profile and voltage drops are much improved. Additional cells will be converted.

13. Foundry pig - the production of foundry alloy on the old 30 pound pig line is working fine, except, with only one furnace (and it's a holder/caster, not a melter); production runs are limited to one shift of every three. If this product is to be expanded, a second furnace, perhaps an induction melter, must be purchased.

14. Logan large ingot - large ingot, 30x62x180 and 20x78x180 are being cast for Logan, one ingot per drop. The plant has designed and will be commissioning a two-drop station. 300" ingots can be made after the capital expenditures have been made as outlined in the large ingot program.

NOT TRUE!
Will take
about
a year
to completely
purge
ARCO coke
large
new cleaned
system

10.7
Important

MAY 7 1984

F. N. MUDGE

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15. Saw preheat - moisture is satisfactorily removed from saws and cracked "T" in the propane fired drying oven designed and built by Columbia Falls.
16. Dross press - the foundation for the dross press is now complete, and the press will be installed soon.

As this project list shows (and it's not all inclusive), the people at Columbia Falls are very busy and working on cost reduction projects that are showing results. It is hoped that funding for these projects will be available as the experience of 5, 10, and 20 pot tests encourages expansion to all 600 pots.

X Columbia Falls is doing what it said it could do.

022/JLY/vrs

A handwritten signature in black ink, appearing to be 'Jim', with a large loop at the end.

cc: R. W. Becker/LVA
F. N. Mudge/RMI
R. A. Sneddon/Columbia Falls